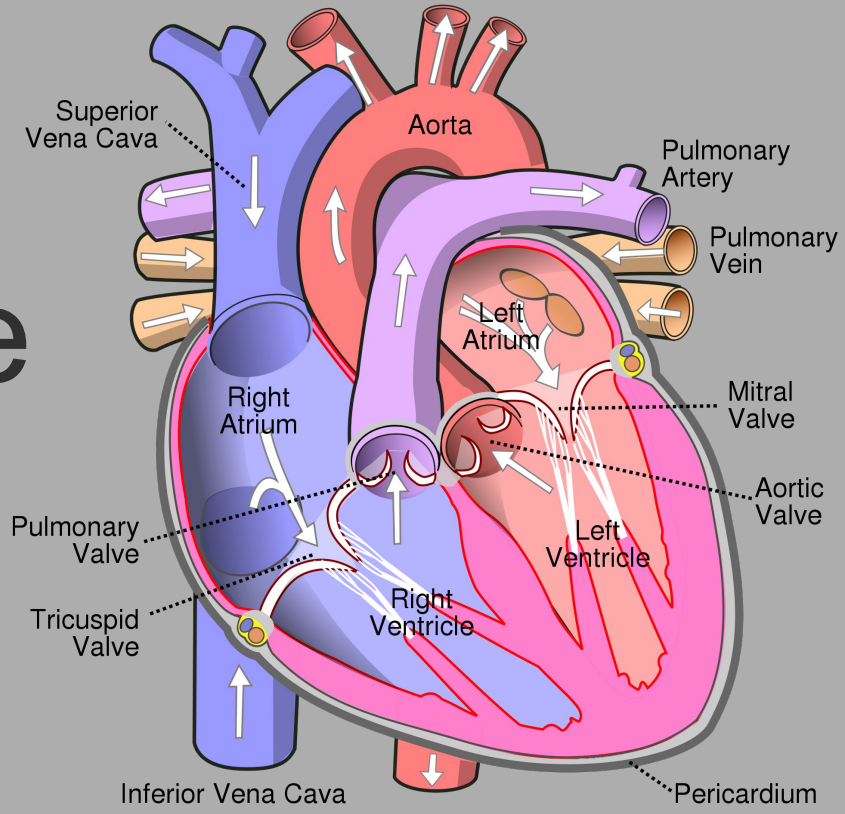
# Heart Failure

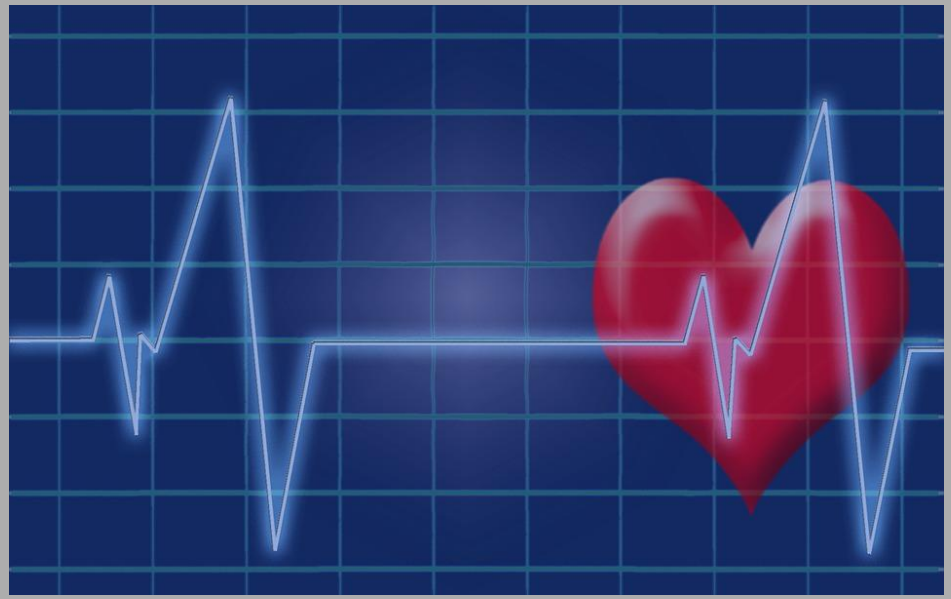
Presentation by:
Sarah Musselwhite



**Heart Failure** - A chronic condition in which the heart does not pump blood as well as it should through the body. Also know as CHF, or Congestive Heart Failure. Heart failure can occur if the heart cannot pump (systolic) or fill(diastolic) adequately.

Symptoms include:

- Shortness of breath
- Fatigue
- Swelling of legs
- Rapid heartbeat



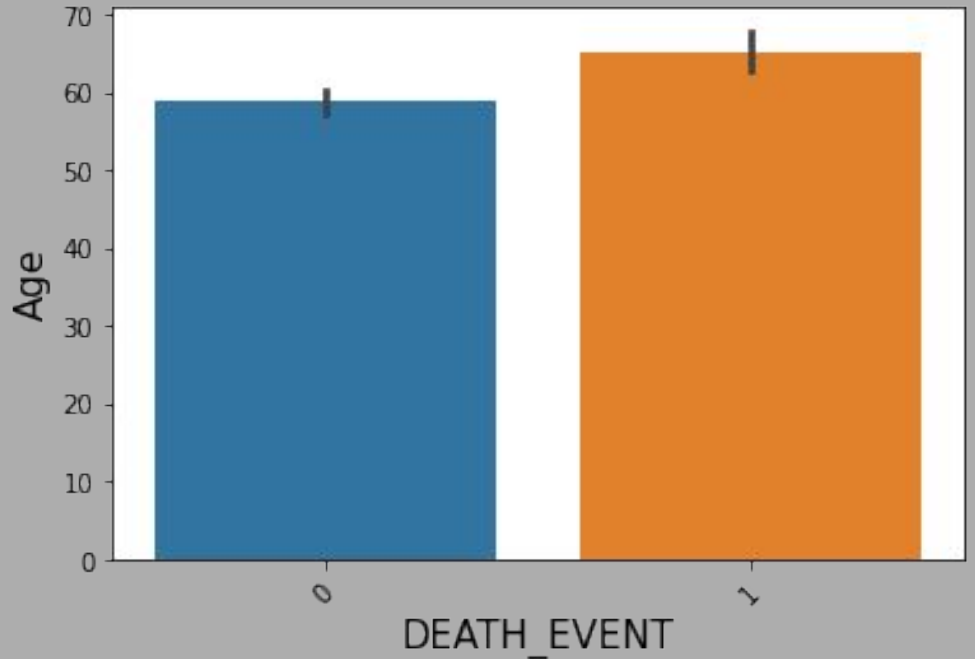
WHY?: With this project I was hoping to study the effects of different variables that contribute to heart failure, in patients of multiple ages.

FOR WHOM?: Multiple stakeholders from pharmaceutical companies looking research possible better treatments/ treatment plans.

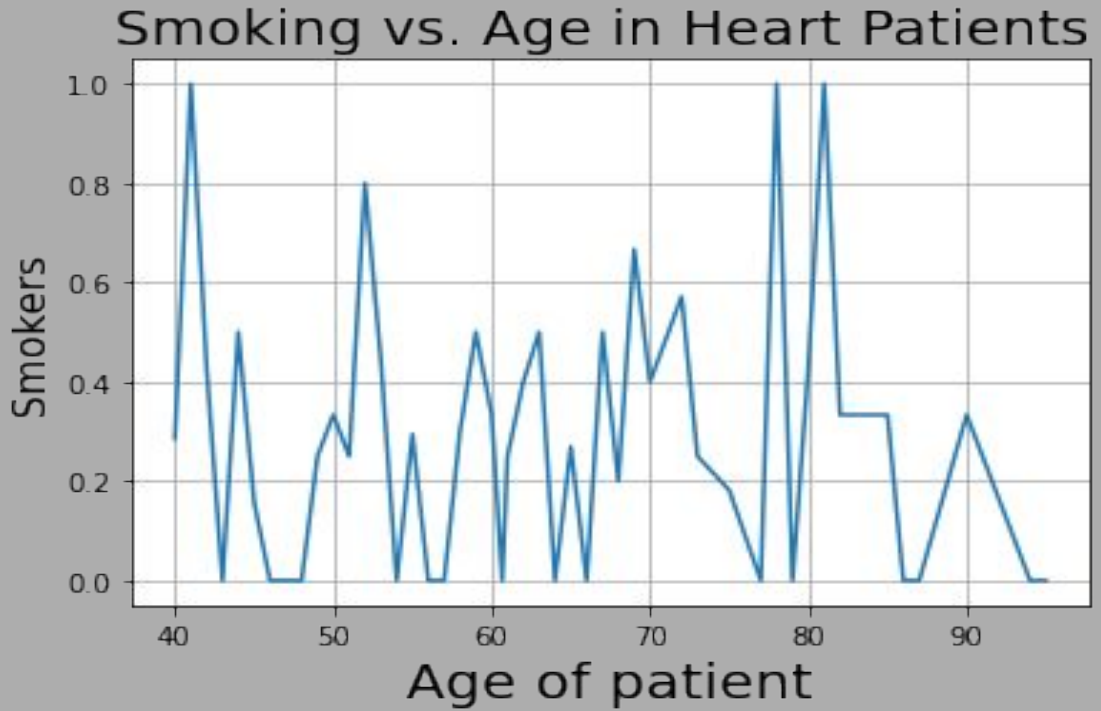
Data:

- **age:** Age of the patient
- **anaemia:** If the patient had the haemoglobin below the normal range
- **diabetes:** If the patient was diabetic
- **high_blood_pressure:** If the patient had hypertension
- **sex:** The gender of the patient
- **smoking:** If the patient smokes actively or ever did in past
- **time:** It is the time of the patient's follow-up visit for the disease in months
- **DEATH_EVENT:** If the patient deceased during the follow-up period

# Age as a contributor to Heart Disease Death (0=N 1=Y)




For this visualization, I am exploring the trends in this data how differently age affects death events in a heart failure patient. 0 equals death did not occur due to heart failure, while 1 equals a death event. As we can see heart failure patients (depending upon how long they have suffered from HF, among other variables) seem to lose their battle, on average, around age 65-70.

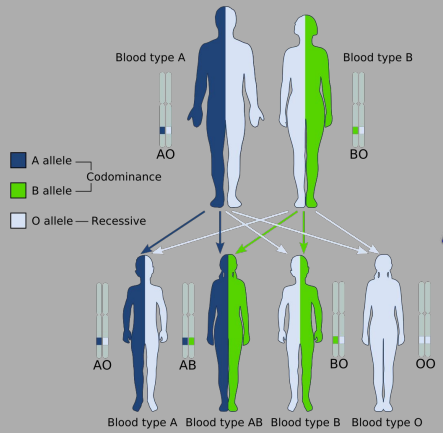



With this visual I wanted to explore if and possibly how much smoking could affect a heart failure patient. The trend seemed to trend lower between the ages of 50 - 75. While this doesn't necessarily affect a heart failure patient in a very specific way. I wanted to illustrate that it is among other variables. While doing this research, I found that there was not one specific variable that could be blamed.

Limitations would be a lack of broader variables (non nominal values) and factors that can contribute to a non-medically trained person.

I would move to include:

- History of heart issues?
- Genetic predisposition
- Other lifestyle habits (alcohol consumption, diet, exercise, etc)


# Recommendation

I made this analysis to promote general awareness about heart health and factors that one should keep in mind when considering their own heart health.

I would also recommend to investigate this data deeper, and to add a few other preventative health, genetics, and lifestyle variables as well.